



ITW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Bailey, Todd C.  
App. No.: 10/781,278 GPAU: 1756  
Filing Date: 02/18/2004 Examiner: Christopher G. Young  
Dkt. No.: PA95-37D13 Conf. No.: 2060  
For: Imprint Lithography Template Having a Mold to Compensate  
for Material Changes of an Underlying Liquid

INFORMATION DISCLOSURE STATEMENT

Mail Stop AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The following information is submitted in compliance with Applicants' duty of disclosure and pursuant to 37 C.F.R. § 1.56, § 1.97 and § 1.98. The undersigned brings the patents, publications, applications or other information identified in the attached:

☒ Form(s) PTO/SB/08A and/or PTO/SB/08B or PTO/1449

☐ Other:

to the Examiner's attention in the above-identified application. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

This Information Disclosure Statement is being filed:

before the mailing date of a first Office action on the merits or before the mailing date of a first Office action after the filing of a request for continued examination under § 1.114. Therefore, no fee is believed required.

Applicants do not believe that any additional fees are due, but if the Commissioner believes additional fees are due, the

Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 502650.

CERTIFICATE OF TRANSMISSION

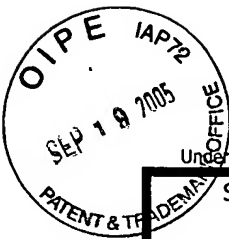
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as either First Class Mail or Express Mail, in an envelope addressed to the Commissioner for Patents.

Signed: Katrina Prati  
Typed Name: Katrina Prati  
Date: 9-16-05

Respectfully Submitted,



Kenneth C. Brooks,  
Reg. No. 38,393  
IP Counsel  
Legal Department  
Molecular Imprints, Inc.  
P.O. Box 81536  
Austin, TX 78758-1536  
(512) 339-7760  
(512) 491-8918 (fax)



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

Substitute for form 1449A/PTO				Complete if Known	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				APPLICATION NUMBER	10/781,278
				FILING DATE	02/18/2004
				FIRST NAMED INVENTOR	Sreenivasan et al.
				Group Art Unit	1756
				Examiner Name	Young, Christopher
				Attorney Docket Number	PA95-37D13
Sheet	1	of	6		

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	E1	4,959,252		Bonnebat et al.	9/25/1990	
	E2	5,259,926		Kuwabara et al.	9/9/1993	
	E3	5,348,616		Hartman et al.	9/20/1994	
	E4	5,512,131		Kumar et al.	4/30/1996	
	E5	5,545,367		Bae et al.	8/13/1996	
	E6	5,776,748		Singhvi et al.	7/7/1998	
	E7	5,948,470		Harrison et al.	9/7/1999	
	E8	5,952,127		Yamanaka	9/14/1999	
	E9	6,051,345		Huang	4/18/2000	
	E10	6,218,316	B1	Marsh	4/17/2001	
	E11	4,201,800		Alcorn et al.	5/6/1980	
	E12	2004/0150129		Hougham et al.	8/5/2004	
	E13	2004/0202865		Homola et al.	10/14/2004	
	E14	5,937,758		Maracas et al.	8/17/1999	
	E15	6,753,131	B1	Rogers et al.	6/22/2004	
	E16	5,956,216		Chou	9/21/1999	
	E17	5,820,769		Chou	10/13/1998	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				APPLICATION NUMBER	10/781,278
				FILING DATE	02/18/2004
				FIRST NAMED INVENTOR	Sreenivasan et al.
				Group Art Unit	1756
				Examiner Name	Young, Christopher
Sheet      2      of      6				Attorney Docket Number	PA95-37D13

[illegible]

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.*

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

Substitute for form 1449A/PTO				<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				APPLICATION NUMBER	10/781,278
				FILING DATE	02/18/2004
				FIRST NAMED INVENTOR	Sreenivasan et al.
				Group Art Unit	1756
Sheet      3      of      6				Examiner Name	Young, Christopher
				Attorney Docket Number	PA95-37D13

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document/BG			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	E22	WO	87/02935		Long et al.	5/21/1987		
	E23	JP	1-196749		Matsumoto et al.	8/8/1989		
	E24	JP	02192045		Mineo et al.	7/27/1990		
	E25	WO	01/90816		Heidari	11/29/2001		
	E26	WO	02/22916		Pettersson et al.	3/21/2002		
	E27	EP	1460738	A2	Gimkiewicz et al.	9/22/2004		
	E28	JP	61-40845		Matsuo et al.	2/27/1986		
	E29	JP	2-248480		Yoneda et al.	10/4/1990		
	E30	JP	3-90345		Nobuyoshi et al.	4/16/1991		
	E31	JP	9-278490		Toru et al.	10/28/1997		

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				APPLICATION NUMBER	10/781,278
				FILING DATE	02/18/2004
				FIRST NAMED INVENTOR	Sreenivasan et al.
				Group Art Unit	1756
Sheet				4	of 6
				Examiner Name	Young, Christopher
				Attorney Docket Number	PA95-37D13

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite, No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>

E32	FEYNMAN, There's Plenty of Room at the Bottom, 12/1/1959	
E33	XIA ET AL., Soft Lithography, Angew. Chem. Int. Ed., pp. 550 - 575 1/1/1998	
E34	KRUG ET AL., Fine Patterning of Thin Sol-gel Films, Journal of Non-Crystalline Solids 147 & 148, pp. 447 - 450 1/1/1992	
E35	NGUYEN, Asymmetric Fluid-Structure Dynamics in Nanoscale Imprint Lithography, The University of Texas at Austin, pp. 1 - 111 8/1/2001	
E36	Abstract of Japanese Patent 02-92603, 8/12/2004	
E37	Abstract of Japanese Patent 02-24848, 1/26/1990	
E38	SOWAH, Diamond used to Break the Mould, Retrieved 9/2/2003 from URL: <a href="http://www.electronicetimes.com/story/OEG20020918S0003">http://www.electronicetimes.com/story/OEG20020918S0003</a> 9/18/2002	
E39	APPLICATION NO. 10/827,118, naming Inventors Watts et al., entitled A Method of Forming a Deep-Featured Template Employed in Imprint Lithography, filed 4/19/2004	
E40	Abstract of Japanese Patent 61-040845, 2/27/1986	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				APPLICATION NUMBER	10/781,278
				FILING DATE	02/18/2004
				FIRST NAMED INVENTOR	Sreenivasan et al.
				Group Art Unit	1756
Sheet				5	of 6
				Examiner Name	Young, Christopher
				Attorney Docket Number	PA95-37D13

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>

	E41	Abstract of Japanese Patent 02-248480, 10/4/1990	
	E42	Abstract of Japanese Patent 3-090345, 4/16/1991	
	E43	Abstract of Japanese Patent 09-278490, 10/28/1997	
	E44	Abstract of Japanese Patent 61-040845, 2/27/1986	
	E45	Abstract of Japanese Patent 02-248480, 10/4/1990	
	E46	GEHOSKI ET AL., Indium Tin Oxide Template Development for Step and Flash Imprint Lithography, SPIE Microlithography Conference 2/1/2005	
	E47	DAUKSHER ET AL., Repair of Step and Flash Imprint Lithography Templates, J. Vac. Sci. Technol. B 22(6), pp. 3306-3311 11/1/2004	
	E48	NORDQUIST ET AL., Image Placement Issues for ITO-based Step and Flash Imprint Lithography Templates, J. Vac. Sci. Technol. B, pp. 695-701 3/1/2004	
	E49	DAUKSHER ET AL., Step and Flash Imprint Lithography Template Characterization, from an Etch Perspective, J. Vac. Sci. Technol. B 21(6), pp. 2771-2776 11/1/2003	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				APPLICATION NUMBER	10/781,278
				FILING DATE	02/18/2004
				FIRST NAMED INVENTOR	Sreenivasan et al.
				Group Art Unit	1756
Sheet 6 of 6				Examiner Name	Young, Christopher
				Attorney Docket Number	PA95-37D13

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>

	E50	RESNICK ET AL., Imprint Lithography: Lab Curiosity or the Real NGL?, SPIE Microlithography Conference 2/1/2003	
	E51	MANCINI ET AL., Analysis of Critical Dimension Uniformity for Step and Flash Imprint Lithography, SPIE Microlithography Conference 2/1/2003	
	E52	MANCINI ET AL., Hydrogen Silsesquioxane for Direct Electron-Beam Patterning of Step and Flash Imprint Lithography Templates, J. Vac. Sci. Technol. B 20(6), pp. 2896-2901 11/1/2002	
	E53	DAUKSHER ET AL., Characterization of and Imprint Results Using Indium Tin Oxide-Based Step and Flash Imprint Lithography Templates, J. Vac. Sci. Technol. B 20(6), pp. 2857-2861 11/1/2002	
	E54	NORDQUIST ET AL.Q, Critical Dimension and Image Placement Issues for Step and Flash Imprint Lithography Templates, 22nd Annual BACUS Symposium on Photomask Technology, Monterey, CA 9/1/2002	
	E55	BAILEY ET AL., Template Fabrication Schemes for Step and Flash Imprint Lithography, Microelectronic Engineering, 61-62, pp. 461-467 1/1/2002	
	E56	RESNICK ET AL., High Resolution Templates for Step and Flash Imprint Lithography, SPIE Microlithography Conference 2/1/2002	
	E57	RESNICK ET AL., New Methods for Fabricating Step and Flash Imprint Lithography Templates, NIST-SPIE Conference on Nanotechnology 9/1/2001	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.